Animate It!

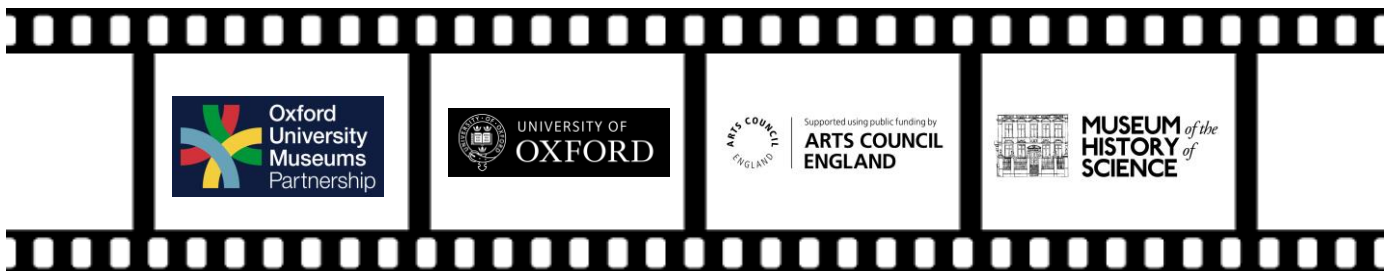**Museum of the History of Science 2014-15**

Aspire (OUMP) Innovation Award

Project Summary

The aim of this project was to experiment with film-making as a way of bringing objects in the Museum's collection – in particular, working scientific instruments of a technical nature – to life and make them more accessible to visitors. These films could then be made available to visitors via the Museum's website or on gallery via QR codes or VR technology.

The project began in October 2014 with an invitation to postgraduate students in science and the history of science to take part as film presenters. Following selection a core project team of four postgraduate students and two museum staff was assembled. A couple of meetings were organized with museum staff and the video film unit from the University's Media Services department to discuss the project, and a selection of eight popular objects was made from those on display that would benefit from demonstration and explanation on film.

A series of project meetings were held to discuss and develop ideas for filming including style and guidelines for content. Scripts were developed and rehearsed using iPads to film ourselves.

Most of the object filming took place in February but due to illness within the film crew, dates for filming had to be rescheduled. Due to refurbishment of the editing suite, there were some further delays in post-production. After further post-production meetings, eight films were completed by the end of May.

The films will be made available via a project website which is currently under construction along with explanatory notes on each object. A soft launch of the films is planned via the Museum's blog over a period of a couple of months during the summer.

Project team

Project Lead: Chris Parkin

Film presenters:

Robyn Haggard, MSc student in History of Science
Lynn Atkins, MSc student in History of Science
Sophie Andrews, DPhil student in biological sciences
James Cooke, DPhil student in neuroscience
Scott Billings, Public Engagement Officer, Museum of History of Science
Chris Parkin, Education Officer, Museum of History of Science

Museum staff:

Lucy Blaxland, Collections Manager
Cheryl Wolfe, Conservator
Keiko Ikeuchi, Photography and graphic design

Film production:

Karen Carey, Media Services, Oxford University IT department
Gregory Jenkins, Media Services, Oxford University IT department

Project proposal

The original project proposal was as follows:

The Museum of the History of Science has many working scientific instruments and models on display which visitors often find puzzling or unfamiliar, and this is particularly true of family audiences. Visitors are not able to explore or interact with objects directly and there is little information on display about their function.

The project would aim to make a series of short 2 minute explanatory films of a selection of objects on display to demonstrate their use. The selection would focus on objects with moving parts such as an orrery or armillary sphere, or to provide a sense of what it would feel like to see through optical instruments such as an early microscope or telescope. Many objects exist in boxed kit form which may be assembled or taken apart to show different accessories.

The films would feature original objects rather than digital animations, and the aim would be to create an engaging and accessible style enabling visitors to relate to objects on a more personal level, e.g. perhaps with reference to contemporary devices and social context, and with a light touch on historical information.

The films would be aimed primarily at schools and family audiences and would be accessible as podcasts via the education and families section of the Museum's website. The selection of 6-10 objects would be embedded on a web page with further information about the objects designed with family and school audiences in mind.

The films could be made accessible to visitors via QR codes on gallery as soon as Wi-Fi access is available at MHS as planned.

The films could, at a later date, be linked to a multimedia trail downloadable as an app from the Museum's website aimed at family audiences, or as a paper trail with embedded QR codes. They would also provide useful resources for broader multimedia platforms such as the 'My Museum' proposal.

Aims and intended outcomes

In addition to the aims of the project originally outlined in the proposal, discussion with colleagues led to the idea of developing a project team and inviting postgraduate students with an interest in science or the history of science to take part as presenters and content developers. In this way, the project extended the level of participation specifically to a group of young people in the 18-25 age range and offered opportunities for professional development for the students taking part.

Intended Outcomes

The intended outcomes of the project were:

1. To explore and develop techniques for demonstrating and engaging audiences with scientific instruments using film.
2. To create a series of short 2-3 minute explanatory films based on scientific instruments from the Museum's collection.
3. To make these films available to the public via the Museum's YouTube channel and a bespoke website providing further information about the objects online.
4. To enhance the Museum's education programme by providing teachers and students access to the films and information about the objects linked to specific sessions in the programme for schools.
5. To enhance the Museum's offer to family and community audiences by signposting the resources online via the Museum's website.
6. To explore the use of QR codes beside the objects on display to enhance visitor experience of the Museum.
7. To provide opportunities for postgraduate students to develop skills in public engagement and make use of the Museum's collection to develop their knowledge and insight into the history of scientific instruments.
8. To share lessons learned about the project within the project team and more widely with Museum staff via the Museum's social media.

The project addresses the following ACE goals:

Innovation – experimenting with engaging audiences via film-making and creating new digital resources linked to objects on display
Audiences – supporting greater access to the collections via the Museum's website, enhancing resources available to teachers and students, and creating opportunities for university students to get involved and develop skills in public engagement
Engagement – enhancing visitors' experience of objects on display, and remote access
Digital – enhancing the Museum's digital resources, for schools and families in particular
Resilience – providing resources which could be linked into a broader platform such as VR technology

Activities and outcomes

Recruitment of presenters

The project began in October 2014 by selecting a team of presenters. An invitation was sent out to postgraduate students in history of science and science subjects within the University's MPLS departments. There were over 20 positive responses almost immediately indicating a high level of interest in the project and the opportunities it presented. In order to make a selection those responding were requested to complete a written application form to explain their background and interest in participating. This led to the selection of 5 students, one of whom subsequently dropped out, resulting in a core project team of six; 4 students and 2 members of staff (Chris Parkin, project lead, and Scott Billings, Public Engagement Officer).

Project meetings and preparation

A series of three project development meetings were set up initially in November, December and January. In the first meeting we discussed the scope of the project and potential audiences; we looked at a number of examples of object related films made in other museums identified through internet searches. At this stage I was keen to emphasise the experimental nature of the project and that we should try to keep an open mind about style and content. We also made a tour of the Museum's collection in order identify possible objects for filming and identified selection criteria:

- The object would benefit from 'animation' in the sense of being a working instrument that could be demonstrated or hidden components that could be revealed during explanation
- The object should have popular appeal and the potential to be made accessible through film
- The selection should reflect the diversity of the collection
- The objects should have relevance to the education programme
- They should be robust enough for handling during film making

Eventually, influenced by individual choice and preference, a selection of 8 objects was made. Discussions with the collections manager and conservation were followed by a submission to the Collections Committee which led to approval with various guidelines and restrictions put in place including collections supervision of filming.

After allocation of the objects, individual members of the team carried out research in their own time and gathered information and ideas about content for their object(s). The second meeting focussed on content guidelines and developing a script. In order to provide for a similar format for each film, the following guidelines were negotiated:

- The films would be no longer than approximately 3 minutes in duration and therefore would have to be very concise
- The films should convey a clear explanation of the use and function of the object but also a sense of its social and historical context
- The narrative should invite curiosity using the strategy of 'provoke; relate; reveal'
- The content and style needed to be accessible in the broadest sense without 'dumbing down' too much or compromising on factual accuracy

It was also agreed that we should try to think about ways of relating the objects to contemporary life in order to make them more relevant to individual experience.

Scripts were then drafted and edited though individual meetings with Chris Parkin, project lead, and exchange of ideas via Basecamp which was used as a project management tool. The aim was to develop a tight and accurate script which would provide the essential shape and narrative for the films, and that through subsequent rehearsal we would become sufficiently familiar with the script to evolve a natural style of presentation. This proved more challenging and time consuming than expected, partly because the objects and historical context in the deeper sense were not familiar to most of the project team so time had to be spent in developing these aspects.

Once the scripts were established, the January meeting and a further unscheduled meeting in February were dedicated to rehearsing the script using stand-in objects and iPads to film each other. This was a useful opportunity to get used to presenting to camera, and to share experiences and ideas.

Filming

Establishing dates for filming was not straightforward because it meant coordinating a number people as well as the gallery venue and uninterrupted lengths of time for filming. The filming eventually took place over three mornings in February and March; unfortunately, due to illness, it was not possible to have the same camera operator for all eight films which led to some inconsistencies.

The filming process was found to be a lot more time consuming and exacting than anyone (including the media production team) had expected; this was partly due to lack of experience in presenting, and partly due to the time needed to set up lighting and positioning of objects whilst adhering to the necessary protocols surrounding the handling and manipulation of objects. A member of the collections team was present during the

filming to supervise the object handling, but this was also the first direct encounter that the presenters had had with those objects.

Helping team members to relax and overcome nerves during filming was an additional challenge whilst directing and retaking shots as necessary to achieve satisfactory material for editing.

Robyn Haggard working with a diptych dial

James Cooke explaining how an octant works

Sophie Andrews with close camerawork revealing an object from the medicine chest in detail

*Chris Parkin
presenting the
Wimshurst electrical
generator*

*Scott Billings revealing
the magic of the
camera obscura*

Editing

The films were assembled and edited by the University's Media Services unit. For various reasons there were unavoidable delays in editing, but a project meeting was held to view rough cut versions of some of the films in March. Subsequent meetings between the two film editors and the project lead, Chris Parkin, enabled further revisions and fine-tuning of the editing. The films were completed by the end of May.

Preparation of resources and website

PDF downloads have been prepared for each of the objects to provide additional information linked to the education programme. These will be made accessible along with the films via a project website which is currently under construction.
The films may also be linked to objects on display via platforms that will be experimented with as part of the Hidden Museum project currently in progress.

Launch and dissemination

At the time of writing this report, the launch and dissemination had yet to be carried out. The plan is to have a soft launch of the films linked to individual blogs by team members over the summer months. We also plan to have a screening for team members and museum staff to share lessons learned about the project.

Costings and budget

The following costings were made in planning the project:

Item	Supplier	Cost
Filming and editing (0.5 day filming, 3 day's editing)	Oxford University IT media services	£1,500
Project coordination, preparation and post production (120 hours)	Education Officer – Chris Parkin	£3,160
Conservation and studio costs	Collections and Conservation	£300
		TOTAL: £4,960

Total amount applied for: £4,960

ASPIRE Innovation Award: £4,960

Actual expenditure:

<u>**Animate It budget**</u>   **Innovation Award budget = £4,960**

Date	Item	Supplier	Cost	Total
Jan/Feb 2015	Gallery assistants - additional hours	MHS gallery assistants	£ 122.84	£ 122.84
Jan/Feb 2015	Filming and editing	Ox Uni IT Services	£ 1,500.00	£ 1,500.00
Oct 2014-Feb2015	Education officer hours	Chris Parkin	£ 3,160.00	£ 3,160.00
		TOTAL spend	**£ 4,782.84**	
		Remaining:	£177.16	

Comment:

The amount of time spent on the filming and editing was underestimated and although University's Media Services were extremely supportive and met with the agreed project outcomes, a similar project in future would require a greater budget to cover professional production costs if this route were taken again.

Feedback and Evaluation

Feedback

Because the films have only just been completed there has been no opportunity yet to test them out and obtain feedback from the intended audiences. However, a considerable amount of feedback was provided by the project team itself and there were follow-up discussions between team members to assess the process of making the films and benefits to the participants (see appendix). In general, the project was seen to be successful in terms of experimenting with the medium and format of object films and in terms of the personal and professional benefits to the project team members. It also provided a number of lessons to build on for the future.

Positive aspects of the project included:
- We were successful in creating a series of eight 3 minute films about objects from the collection. The films are polished in appearance having been professionally filmed and edited, and they convey the workings of the objects set in historical contexts.
- The invitation to a group of young people in the 18-25 age range, students with an interest in science or history of science, to take part was a very positive aspect of the project; as well as extending participation in creating the films, the team benefitted from the exchange of ideas and shared the task of content development and presenting. It also made the process more enjoyable and widened interest in the objects and the collection. The students gained experience and communication skills and, in the case of the two students of history of science, contributed directly to their academic programme.
- The project will result in a useful resource for the website linked to the education programme and objects on display in the gallery. It will also provide a resource with which to experiment in on gallery visitor enhancement via platforms currently being developed using newly installed public wifi.
- The project created interest amongst museum staff and presented an opportunity for staff development with two members of staff participating directly and others involved in preparation of the objects for filming.

Areas identified for improvement include:
- The original aim was to develop a style of presentation which would appeal to family audiences and others with limited specialist knowledge of science. The extent to which the project has succeeded in doing this is as yet untested. However, it was felt by team members that with more time and experience more could have been done to experiment with more informal styles of presentation with a little more fun and popular appeal.

- No prior audience research was carried out. Working with a mixed focus group would have provided the team with more information about audience preferences informing the content and style of presentation.
- Several of the team members expressed surprise at the demanding and professional nature of the film making involved. A couple of the presenters suffered severely from nerves during filming and it was evident that more rehearsal and support in developing techniques would have been useful.

Quotes from project team members about the experience of participating:

'I think that the project provided a really nice opportunity to be involved with a public engagement activity not directly related to my current research'… 'I liked that I was able to select the item myself from a range of different ones so that I could research something I genuinely thought was fascinating' [Sophie]

'I think I gained presentation skills along with confidence building. I have also learned what kind of time and effort goes into a project like this. I've learned how to deal with anxiety at presenting and that preparation is the key to a successful outcome.' [Lynn]

'I am keen to investigate how we can make more use of video to 'unlock' the objects and their stories or functions for visitors in the galleries. So again this was a really useful exercise in thinking about ways to do that and testing them out, not just through my video but also in discussion with the other participants and by comparing their approach to making their videos.' [Scott]

'It was a very useful and pleasant experience and I very much enjoyed working with everyone involved. I felt it was very well organised and went pretty much as I would have hoped and expected.' [Robyn]

'We were given a lot of feedback on our ideas and scripts as we went along, which was actually more comprehensive than I anticipated.' [James]

'The actual filming was far more professional than I was expecting.'

'…my hope was to be able to work on a piece of video content that might be suitable for in-gallery delivery and I think I achieved that by working with Chris and the other Animate It contributors' [Sophie]

'I think the process of planning and preparation was good. I liked all the meetings we had and I found practicing with the iPad very useful. I think it would be helpful to have final scripts a week or two earlier and to practice with an iPad with those.'

'I think we discovered, perhaps not surprisingly, that it takes a long time to prepare for and make even a short piece of video, and that's when we weren't responsible for the editing and post-production too.'

'I think that it has made me appreciate more the effort that the museum staff go to, to make the exhibits and items accessible, enjoyable and interesting to visitors.'

'This was a really enjoyable project, and I'm grateful that I was given the chance to get involved. Thank you again.'

'Definitely recommend doing this again, and making it really easy for people to access the videos whilst in the museum, maybe through a mounted ipad?'

Lessons learned

1. **Time:** The time needed for the whole process of producing these films was significantly underestimated. This in part was due to the additional meetings and preparation required as a result of inviting students who were unfamiliar with the collection and the process of film-making (as we all were) to participate in the project. In particular, more time was needed for the presenters to familiarise themselves with the content in order to develop a more relaxed approach to presentation during filming. The lack of experience in presenting also meant that the time allowed for filming had to be extended.

2. **Planning and preparation:** Plenty of time needs to be allowed for the planning and preparation both of content and presentational style. Ideally there needs to be time enough to go through several iterations of developing a script, refining it and then rehearsing it sufficiently such that it comes naturally. Although we had several meetings working on these aspects, we needed to more time to allow the ideas to mature and to compare different approaches. For example, we could have tried interview techniques to facilitate a more natural response from presenters. We might also have spent more time researching and looking at other examples of short films although surprisingly there don't appear to be many examples of this genre across the museum sector.

3. **Style of presentation:** In addition to the time involved, it became clear during the process of researching and developing scripts that a balance had to be struck between absolute accuracy over operational and historical details and creating an accessible style of presentation that would break with a more traditional and formal one. Although we managed to create a very respectable series of films, we could all see that there was some way to go to achieve a confident and unique style of presentation. This, in part was a matter of each person finding his or her own voice but within an overall agreed format.

4. **Skills:** Only two members of the project team had had direct experience of making films and presenting. This turned out to be much more challenging than expected to those who had not had experience. The exacting nature of the filming process was accentuated by the need for short and concise films which explained things accurately and by the presence of a professional film crew. It was clear that we all learned a lot about the kinds of skill required to carry out what on the face of it looks like a relatively undemanding task. In order to achieve a professional outcome it is important to spend the time developing the necessary skills with professional guidance, and to allow plenty of scope for rehearsal and a process of learning through experimentation.

5. **Participation:** Enabling the participation in production of an extended team – in this case including postgraduate students – was a very positive aspect of the project which enhanced learning through the exchange of ideas and also enjoyment of taking part. However, it presented a challenge in terms of skills and expertise; in this case, presentational skills and levels of confidence in communicating ideas varied significantly. When working with voluntary contributors, considerable attention needs to be given to coaching and script editing in the process of preparation.

Next Steps

The next steps include:
1. Construction of a webpages within the Museum's website to provide a portal to access to the films on YouTube along with additional information about each object in the form of downloadable PDF documents
2. To link the resource to sessions listed in the education programme online and the media resources page of the Museum's website
3. To find a way to road test the videos with family audiences and teachers
4. To launch the videos via the Museum's blog over the summer months
5. To arrange a viewing for the project team and other museum staff to and create a forum to share information about the project and lessons learned
6. To look at methods of providing on gallery access to the resources linked to objects on display; the films will provide a resource with which to experiment in the Hidden Museum project currently in progress
7. To look at the potential for further work in creating similar video resources for other objects in the Museum's collection

Chris Parkin
Project Leader
Museum of History of Science
May 2015

Appendix

Feedback from project team members

The following feedback was obtained from project team members by questionnaire:

1. What do you think you have gained from participating in the project?

'I have learnt a lot about the specific demands of delivering written material on camera and the filming process itself. Although I have extensive experience of writing independently, this also gave in insight into the process of writing collaboratively.'

I think that the project provided a really nice opportunity to be involved with a public engagement activity not directly related to my current research (which is a rare opportunity indeed!). It allowed me to spend time researching an item that I knew little about, and I liked that I was able to select the item myself from a range of different ones so that I could research something I genuinely thought was fascinating. Being able to plan out and write my own script also helped me to improve my communication skills, by encouraging me to consider the best way to convey the most interesting bits of information in a condensed format under a (reasonably) strict time limit. It was also a great chance to gain more experience working with film, as these sorts of opportunities do not come about often.

'Experience of professional filming, and more confidence if I ever do something like this again! Also, an awareness of how difficult this type of thing is!'

'I think I gained presentation skills along with confidence building. I have also learned what kind of time and effort goes into a project like this. I've learned how to deal with anxiety at presenting and that preparation is the key to a successful outcome.'

Personally, I am interested in developing the skills needed to be able to script and present museum object-related interpretation to camera in an appropriate and compelling way. This project was an excellent opportunity to work on something from start to finish, deciding on the structure, tone, length, and supporting material and scripting and presenting to camera.

From the Museum's public engagement point of view I am keen to investigate how we can make more use of video to 'unlock' the objects and their stories or functions for visitors in the galleries. So again this was a really useful exercise in thinking about ways to do that and testing them out, not just through my video but also in discussion with the other participants and by comparing their approach to making their videos.

Some of the material from Animate It will now be used as part of a wider piece of research I am working on looking at the delivery of mobile interpretation content in-gallery at the Museum of the History of Science and the Museum of Natural History in Oxford.

[Scott Billings, Public Engagement Officer]

2. **Did the project meet with your expectations in terms of participation? Please comment.**

It did indeed. It was a very useful and pleasant experience and I very much enjoyed working with everyone involved. I felt it was very well organised and went pretty much as I would have hoped and expected.

Yes. I think that in terms of the amount of preparation and time commitments, everything was roughly consistent with what I expected based on the information that we were sent before starting. We were given a lot of feedback on our ideas and scripts as we went along, which was actually more comprehensive than I anticipated.

Yes. The actual filming was far more professional than I was expecting.

Yes it did. I expected the research and the filming. There was more participation then what I expected in that we did a pdf document after.

Yes. As above, my hope was to be able to work on a piece of video content that might be suitable for in-gallery delivery and I think I achieved that by working with Chris and the other Animate It contributors and the filmmakers.

3. **What did you think about the process of planning and preparation for the filming? E.g. Did you feel sufficiently well supported? Do you have any suggestions about how the preparation could be improved if we were to run a similar project in the future?**

I did feel well supported. I assume that keeping to time is always a difficulty when filming but everyone was made aware of this in advance so it's hard to see how this could be improved next time.

I felt sufficiently well supported. I think that the number of preparation sessions was appropriate, and that we were given good, constructive feedback as we went along. Any questions that I had were answered quickly and thoroughly. I think that the practice session filming with the iPads was particularly useful, and I'd recommend doing this again were you to run another similar project in the future.
There is one suggestion that I think could be useful in the lead up to another project like this. This would be to have a sort of 'dress rehearsal' with the actual item to be presented, in the location where the filming will take place. For me personally, I found it surprisingly difficult (and a bit overwhelming, to be honest) doing the actual filming on

the day, and I think that a big part of this was that I hadn't been able to do a dry run in the room under the real conditions before the camera started rolling. While I wasn't nervous filming on the iPads a few weeks before, I was very nervous during the real filming and would have felt more comfortable if we had had a chance to prepare in the room beforehand. It was also the first time I'd actually seen and touched my item, as the handling item I used before was completely different. So this was a little off-putting.

I definitely felt supported, and being able to film it on the ipads before was very helpful. The only thing that would have been beneficial was if the changes to script that were brought up during filming had been sent earlier in the week when the script was sent over, as that would have helped a lot with preparation. Also, maybe running a mock session in the room would have been useful.

I think the process of planning and preparation was good. I liked all the meetings we had and I found practicing with the iPad very useful. I think it would be helpful to have final scripts a week or two earlier and to practice with an iPad with those.

I think we discovered, perhaps not surprisingly, that it takes a long time to prepare for and make even a short piece of video, and that's when we weren't responsible for the editing and post-production too.
One difficulty I found was in trying to script and storyboard a piece without having access to the object in question. As the purpose of the series of films is to 'animate' objects – to operate them and show how they work – it was not easy to imagine this with confidence without getting my hands on the object before the filming day.
I think people found performing to camera harder than expected too, so perhaps more dry-runs and rough cuts before the final filming day would help with that, although it would extend the amount of time needed overall (and I missed some of those prep sessions).

4. **Has this project changed your view about any of the following (please comment on each):**

The Museum:
It's made me more aware of their web presence
Yes. I think that it has made me appreciate more the effort that the museum staff go to, to make the exhibits and items accessible, enjoyable and interesting to visitors.
No.
That there is more going on in the Museum then just the exhibitions.
I already work here, so not really; but yes insofar as it's a positive move to look at ways that we can bring to life scientific instruments which are normally static and locked behind glass.

Objects from the Museum:

I didn't realise how extensive the collection of celestial instruments is

Yes. It's made me appreciate the value in some of the exhibits that I would normally glance over and not pay much information to. The octant, for example, is something I've never considered going out of my way to learn about, despite having seen many similar in museums over the years, but actually the history behind it is so interesting, and I think I've learnt a lot. This goes for many of the items actually. I'm a bit of a medical sciences purist, and when I visit museums like this don't pay much attention to items outside of the medical collections (especially things like navigational items… they'd never much interested me before), but that's likely to change in future based on this project!

No, although it was very fun to be able to hold the dial.

Not really. I spend a lot of time there already and knew a fair amount.

I think by going through the process of thinking about a particular object in depth, examining it closely, using it, and then scripting a piece about it you get a greater appreciation of it, both as a scientific tool (in these examples) and as a piece of craftsmanship. This is what you're hoping to convey to others in the films.

Making films:

Made me realise I prefer the writing process to filming

Yes. The amount of thought that goes into planning and making good quality films is much higher than I appreciated.

Yes, it's harder than I thought, and I already thought it was hard!

It takes a lot more time to film then what I first expected. It would have been nice to have had a whole morning to film instead of just an hour.

I really enjoy making films and the project has confirmed it. It's difficult and time-consuming to get right, but I like the process and the challenge of it and it's something I'd like to do more of in the Museum.

Your work:

Again, made me want to focus on more behind the scenes aspects of public engagement

A little. What I do is not too closely related to what I presented, but I think that researching the medicine chest has given me a better insight into the development of modern medicine.

No.

That I find filming really stressful, but what I do and the final product isn't as bad as I perceive it to be and that others might think it's good.

5. **Any other comments:**

This was a really enjoyable project, and I'm grateful that I was given the chance to get involved. Thank you again.

Definitely recommend doing this again, and making it really easy for people to access the videos whilst in the museum, maybe through a mounted ipad?

As mentioned, I think the project broadly is an interesting attempt to look at ways of bringing to life instruments in the MHS collection, many originally designed as tools to be used but which are now necessarily displayed statically in cabinets. Making the films themselves was one stage in evaluating how to go about this, but I think the next step is to consider different styles of presentation, length, tone and scripting and so on to try and pin down what overall format is likely to be most successful with visitors (and online viewers).
An extension of this question in terms of delivery is how the material might be made accessible in the galleries – in an app or from a website; on borrowed mobile hardware or downloaded on visitors' own hardware; triggered automatically or manually selected and so on.